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AIR FORCE MANPOWER AND PERSONNEL CENTER RANDOLPH AFB TX  
AGEFORCE - A FORCE STRUCTURE AGEING MODEL: USERS MANUAL.(U)  
DEC 79 J R STRATTON

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Model  
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Simulation

## 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This Ageforce Aggregate Model provides a quick response force prediction tool for any force which can be defined in year-groups (up to 30) with associated retention rates. There are two options available to handle accessions to the force. The first is where a user provides accession numbers for each simulation year. The second is where a user provides a desired force level and the simulation year it wants to attain that level; the required accessions each year are then calculated by the model.

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Item 20 continued.

- The model simulates losses and accessions for up to 30 years with various displays available. All interaction is on-line with the Air Force Manpower and Personnel Center's computer.

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**- AGEFORCE -**  
**A FORCE STRUCTURE AGEING MODEL**  
**USERS MANUAL**

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**DECEMBER 1979**

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**SYSTEMS SOFTWARE & DEVELOPMENT BRANCH**  
**SYSTEMS DEVELOPMENT & SUPPORT DIVISION**  
**DIRECTORATE OF PERSONNEL DATA SYSTEMS**  
**✓ AIR FORCE MANPOWER & PERSONNEL CENTER**  
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-AGEFORCE-

A FORCE STRUCTURE AGEING MODEL

USERS ' MANUAL

BY

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December 1979

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USERS ' MANUAL  
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## SECTION 1. GENERAL

1.1 Purpose of the User's Manual. The objective of the User's Manual for RP/AGEFORCE is to provide the user's non-ADP personnel with the information necessary to effectively use the system.

1.2 Project References. RP/AGEFORCE is a generalized, on-line ageing model used to "game" the effects of various accessions and losses on a predetermined force. The program was developed at AFMPC for any user with access to the AFMPC computer.

Applicable documents are:

a. "AGEFORCE AGGREGATE MODEL," Capt Roger B. Boener, 2 August 1974.

b. DOD "Automated Data Systems Documentation Standards," Standard 7935.1-3, 13 September 1977.

### 1.3 Terms and Abbreviations

a. AGER - refers to RP/AGEFORCE

b. FORCE - user's group to be aged (i.e., active airmen, active officers, civilians, etc.)

c. FORCE STRUCTURE - Any population that can be classified (structured) by year-group, could be commissioned, enlisted, minority, civilian, etc.

1.4 Security and Privacy. AGER operates in an "UNCLASSIFIED" environment.

## SECTION 2. SYSTEM SUMMARY

2.1 System Application. AGER is a quick-response prediction tool that can be executed from the user's work area over a Burroughs TD-800 terminal.

a. AGER provides some flexibility as the user has two options for inputting beginning force structures and retention rates. The first option is to enter force structures and retention rates for each run; desirable for one-time runs. The second option is to input force and rate data and save it on a computer disk file for subsequent use and reuse. With either option the user can change data by using AGER's update capability.

b. The user can also select either of two operating modes for AGER. The first is the simple ageing mode where retention rates are applied against force levels; accessions, if provided, are added in. The second is the steady-state mode where the goal is to attain a desired force level after a specified number of years. The model calculates the number of accessions needed each year to first attain the steady state force, and then maintain that steady state force throughout the ageing period. In either mode, the resulting report shows the force distribution by year-group after each year of ageing, the losses each year, and the total force level each year.

2.2 System Operation. A user can run AGER anytime computer resources are available. The program is usually available during normal duty hours.

2.3 System Configuration. AGER runs on the BURROUGHS 6700 computer located at AFMPC, Randolph AFB, Texas. The system uses TD-800 terminals at various AFMPC user locations. All interaction is between these two devices.

2.4 System Organization. The system contains only one program, RP/AGEFORCE, which does all the processing.

2.5 Performance.

a. Input - all user inputs are via TD-800 terminal. The system asks for each input needed and states how it is to be entered.

b. Output - output is via TD-800 terminal transmitted directly to the user.

c. Response time - since AGER is on-line, response time is relatively quick.

d. Limitation - limitations are interactively provided by the system when it asks for an input.

e. Error rate - the system has built-in checks for input data errors. If an error exists in the input data, the system asks for the data again.

f. Processing time - due to user interaction throughout the processing cycle, processing time goes unnoticed.

g. Flexibility - AGER takes any force the user wishes to define by thirty or less year-groups whether it be Active Airmen, minority female officers, or navigators.



2.6 Data Base. The files that are referenced, supported, and kept current by AGER follow:

a. User's Force File. This file is referenced by AGER when the user asks for it. The twenty force groups are maintained as integer values with the twenty sets of retention rates maintained as real numbers.

b. Utilization File. This file is referenced and updated every time AGER runs.

2.7 General Description of Inputs, Processing, Outputs.

a. Inputs. All AGER inputs are accomplished via on-line interface with the user. The technique used is a branching method which asks "YES/NO" and specific data questions. The result of the inputs leads to a force with corresponding retention rates and various parameters for operating modes.

b. Processing. All processing is done on-line by the one program, RP/AGEFORCE.

c. Output. The output product the user receives is a TD-800 display showing the aged force by year-group and ageing years. An example is provided as Attachment 2.

SECTION 3. STAFF FUNCTIONS RELATED TO TECHNICAL OPERATIONS

3.1 INITIALIZATION. To run AGER a user must first follow standard sign-on procedures:

USER: sign-on by entering usercode and password

REMOTE RESPONSE: ENTER FUNCTION

USER: RUN AGE

AGER is now ready to run.

3.2 STAFF INPUT REQUIREMENTS. Before running AGER, a user should gather his force, retention rate and accessions data.

a. Cause of Input - inputs are required when displays from AGER ask for them. The force structures, retention rates and accessions will all be asked for separately.

b. Time of Input - all inputs should be prepared prior to running AGER.

c. Origin of Input - each user is responsible for gathering his own input data. The force must be defined in year-groups, retention rates by year-group, and accessions by the ageing year they will be gained.

d. Medium of Input - all input is via TD-800 series terminals.

3.2.1 Input Formats. AGER is tutorial; displays from the program will lead the user through required tasks. Following is a numerically ordered list of the typical displays AGER presents. In the next section, 3.2.2 Composition Rules, there is a corresponding list of descriptions for the displays and explanations of the inputs needed. Note that there are many ways to get through the program (see Attachment 3); the displays below represent the typical way when a user wants to make a data file and use force and rate groups from that file.

- (1) AGGREGATE MODEL TO AGE SELECTED ELEMENTS OF THE FORCE.  
ENTER YOUR 7-DIGIT AUTOVON NUMBER (I.E. 487-2233).  
THIS DATA IS ESSENTIAL FOR FILE MAINTENANCE AND MAY BE USED TO VERIFY UTILIZATION. IF YOU DESIRE TO START OVER AGAIN WHILE WORKING IN AGE FORCE JUST ENTER AN 'END' RESPONSE WHEN A 'YES' OR 'NO' RESPONSE IS REQUESTED. BE CAREFUL THOUGH, IF YOU ENTER AN 'END' AT ANY OTHER TIME THE PROGRAM MAY TERMINATE ABNORMALLY.
- (2) YOU DO NOT HAVE A SAVE FILE FOR FORCE AND RATE DATA.  
DO YOU WANT TO CREATE A PERMANENT FILE? (ENTER YES OR NO)
- (3) DO YOU WISH TO MAKE CHANGES TO YOUR DATA? (ENTER YES OR NO)
- (4) DO YOU WISH TO CHANGE ANY OF YOUR FORCE GROUPS? (ENTER YES OR NO)
- (5) THERE ARE 20 FORCE GROUPS AVAILABLE FOR YOUR USE.  
ENTER THE NUMERIC CODE (1-20) OF THE GROUP  
YOU WISH TO USE.
- (6) THE CONFIGURATION OF GROUP (1-20) IS PRESENTLY AS FOLLOWS:  
1-10 (VALUES OF FORCE LEVELS IN YR-GROUPS 1-10)  
11-20 (VALUES OF FORCE LEVELS IN YR-GROUPS 11-20)  
21-30 (VALUES OF FORCE LEVELS IN YR-GROUPS 21-30)  
TO CHANGE THE FORCE LEVELS, INPUT YEARGROUP, LEVEL, YEARGROUP,  
LEVEL, ETC., (EX: 2, 364, 12, 1024, \*)  
TERMINATE INPUT WITH AN ASTERISK.  
YOU CAN CHANGE ANY OR ALL YEAR GROUPS THIS WAY.
- (7) DO YOU WISH TO CHANGE THE RETENTION RATES?  
(ENTER YES OR NO)
- (8) RETENTION RATE GROUPS 1 THRU 20 ARE AVAILABLE.  
ENTER THE NUMERIC CODE OF THE GROUP YOU WISH TO CHANGE.

(9) THE CURRENT RATES ARE:

YRS

- 1-10 (RETENTION RATES FOR YEAR GROUPS 1-10)
- 11-20 (RETENTION RATES FOR YEAR GROUPS 11-20)
- 21-29 (RETENTION RATES FOR YEAR GROUPS 21-29)

TO CHANGE RATES, INPUT YEARGROUP, RATE, YEARGROUP, RATE, ETC.  
(EX: 2, .463, 15, .376, \*).

TERMINATE INPUT WITH AN ASTERISK.

YOU CAN ENTER ANY OR ALL RATES THIS WAY.

(10) HOW MANY YEARS DO YOU WISH TO AGE THE FORCE 1-29?

(11) HOW MANY YEAR GROUPS DO YOU WISH TO DISPLAY 1-30?

(12) IF YOU WANT TO ACHIEVE AND MAINTAIN A STEADY-STATE FORCE  
THEN ENTER THE FORCE LEVEL YOU WANT TO ACHIEVE. OTHERWISE  
ENTER Ø (ZERO).

(13) HOW MANY YEARS DO YOU WANT TO TAKE  
TO FIRST ACHIEVE THE STEADY-STATE FORCE? (1-29)

(14) IF YOU WOULD LIKE TO SELECT A FORCE GROUP THEN ENTER YES ELSE NO.

(15) THERE ARE 20 FORCE GROUPS AVAILABLE FOR YOUR USE.  
ENTER THE NUMERIC CODE (1-20) OF  
THE GROUP YOU WISH TO USE.

(16) DO YOU WISH TO USE THE RETENTION RATES? (ENTER YES OR NO)

(17) RETENTION RATE GROUPS 1 THRU 20 ARE AVAILABLE FOR USE.  
ENTER THE NUMERIC CODE OF THE GROUP YOU WISH TO USE.

(18) DO YOU INTEND TO USE THE SAME RETENTION RATES FOR  
EVERY SIMULATION YEAR?  
(ENTER YES OR NO)

(19) IF YOU WISH TO INPUT ACCESSIONS ENTER YES ELSE ENTER NO.

(20) ENTER ACCESSIONS FOR EACH OF THE (1-30) SIMULATION YEARS.  
EX: 100, 300, 500 ETC.

(21) DO YOU WISH TO INPUT NEW RETENTION RATES FOR SIM YR (1-30)  
ENTER YES OR NO

(22) IF YOU WISH TO RUN AGAIN ENTER YES ELSE NO

(23) END OF PROGRAM.

3.2.2 Composition Rules. Following is a description of the AGER displays and explanation of the necessary inputs. The paragraph numbers correspond to those of the actual displays in section 3.2.1 and the symbols in the processing flow chart.

(1) Your seven digit AUTOVON Phone number is used as a title for your force groups and retention rates file which is stored on a computer diskpack, and is also used to tally your utilization.

(2) This message means that there has not been a file created using the AUTOVON phone number entered. If you want to create one enter 'YES'. If you do not want a permanent file enter 'NO'.<sup>1</sup>

(3) If you want to change any of your data enter 'YES'.<sup>1</sup> If you do not want to make changes to your data enter 'NO'.

(4) If you want to make changes to any of your force groups enter 'YES'. If you do not want to change your force group data enter 'NO'.<sup>1</sup> All force groups are initially set equal to zero.

(5) You have twenty force groups available to you in your force file. Each force group contains 30 values, one for each year-group. Enter a number from 1 to 20 corresponding to the force group you want to use.<sup>2</sup>

(6) This display shows what a particular force group looks like with the current force levels in each of the thirty year-groups. To change any of the force levels enter the year-group (1-30), followed by a comma, then the new force level, followed by a comma. You can change from one to all thirty this way. When you are finished entering your changes enter an asterisk. If you do not want to change any levels - maybe you just wanted to look at them - simply enter an asterisk only.

---

<sup>1</sup> Entering an 'END' will terminate that run of AGER.

<sup>2</sup> Suggest you make a chart to keep track of your force groups. See attachment 1 for an example.

(7) If you want to make changes to any of your retention rate groups, enter 'YES'.<sup>1</sup> If you do not want to make changes enter 'NO'.<sup>1</sup> All retention rates are initially set equal to 1.0.

(8) You have twenty retention rate groups available to you within your file. Each rate group contains 29 values, one for each year-group. Only 29 are necessary because no one is retained beyond the 30th year. Enter the numeric code 1 thru 20 of the group you wish to use.<sup>2</sup>

(9) This display shows what your rate group looks like with the current retention rates for each of the twenty-nine year groups. To change any of the rates enter the year group (1-29), followed by a comma, then the new retention rate, followed by a comma. The retention rate itself must contain a decimal point. You can change from one to all twenty-nine this way. When you are finished entering your changes enter an asterisk. If you do not want to change any of the rates simply enter an asterisk only.

(10) Enter the number of years you want to age the force.

(11) Enter the number of year-groups you want to look at.

(12) If you want to reach a certain manning level for your force and stay at that manning level, enter the force level you want to achieve. If you do not want a steady force enter '0'; accessions and losses will then dictate your force level.

(13) Enter the year of ageing you want your steady force to begin in. For instance, if you want to build up to your steady force by the fifth year of ageing enter a '5'.

(14) If you want to use a force group enter 'YES'.<sup>1</sup> If you would prefer to enter new force levels enter 'NO'.<sup>1</sup>

(15) Same as (5).

(16) If you want to use a retention rate group enter 'YES'.<sup>1</sup> If you prefer to enter new retention rates enter 'NO'.<sup>1</sup>

(17) Same as (8).

---

<sup>1</sup> Ibid.

<sup>2</sup> Ibid.

(18) You have the option of using the same retention rates for every year of ageing or you can enter new rates for each year of ageing. If you want to use the same rates for every ageing year enter 'YES'. If you do not enter 'NO'.<sup>1</sup>

(19) If you want to enter accessions to be used in the ageing enter 'YES'. If you do not want to use accessions enter 'NO'.<sup>1</sup>

(20) Enter the accessions you want to use for each of the ageing years. For instance, if you are ageing a force for five years, enter five accession figures followed by an asterisk.

Example: 100, 200, 500, 400, 200, \* (100 corresponds to ageing year 1, 200 to ageing year 2, etc.).

(21) If you want to input new retention rates for the next ageing year enter 'YES'. If you do not enter 'NO'.<sup>1</sup>

(22) If you want to run AGER again enter 'YES'. If you do not want to run again enter 'NO'.

(23) This display indicates AGER is finished running.

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<sup>1</sup> Ibid.

| FORCE GROUP | DESCRIPTION         |
|-------------|---------------------|
| 1           | AIRMEN DATA         |
| 2           | AIRMEN MALE DATA    |
| 3           | AIRMEN FEMALE DATA  |
| 4           | BLANK               |
| 5           | BLANK               |
| 6           | OFFICER DATA        |
| 7           | BLANK               |
| 8           | OFFICER MALE DATA   |
| 9           | BLANK               |
| 10          | BLANK               |
| 11          | OFFICER FEMALE DATA |
| 12          | BLANK               |
| 13          | BLANK               |
| 14          | BLANK               |
| 15          | BLANK               |
| 16          | BLANK               |
| 17          | BLANK               |
| 18          | BLANK               |
| 19          | BLANK               |
| 20          | BLANK               |

ATTACHMENT 1

## 4872233 6 YEAR FORCE STRUCTURE

| YEAR<br>GROUP | 1     | 2     | 3     | 4     | 5     | 6     |
|---------------|-------|-------|-------|-------|-------|-------|
| 15            | 850   | 1101  | 1165  | 1024  | 934   | 855   |
| 14            | 1158  | 1225  | 1077  | 982   | 899   | 750   |
| 13            | 1299  | 1142  | 1041  | 953   | 795   | 535   |
| 12            | 1293  | 1179  | 1079  | 900   | 663   | 679   |
| 11            | 1337  | 1223  | 1020  | 752   | 770   | 731   |
| 10            | 1382  | 1153  | 850   | 870   | 826   | 623   |
| 9             | 1408  | 1038  | 1062  | 1008  | 761   | 628   |
| 8             | 1272  | 1301  | 1235  | 932   | 769   | 642   |
| 7             | 1530  | 1453  | 1097  | 905   | 755   | 453   |
| 6             | 1779  | 1343  | 1108  | 924   | 555   | 37    |
| 5             | 1351  | 1115  | 930   | 558   | 37    | 0     |
| 4             | 1126  | 939   | 564   | 37    | 0     | 0     |
| 3             | 964   | 579   | 38    | 0     | 0     | 0     |
| 2             | 587   | 39    | 0     | 0     | 0     | 0     |
| 1             | 41    | 0     | 0     | 0     | 0     | 0     |
| LOSS          | 0     | 2932  | 2563  | 2240  | 1965  | 1727  |
| STRN          | 22502 | 19570 | 17007 | 14767 | 12802 | 11075 |

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## 4872233 6 YEAR FORCE STRUCTURE

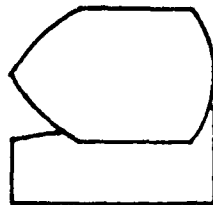
| YEAR<br>GROUP | 1     | 2     | 3     | 4     | 5     | 6     |
|---------------|-------|-------|-------|-------|-------|-------|
| 30            | 0     | 0     | 0     | 0     | 0     | 0     |
| 29            | 0     | 0     | 0     | 0     | 0     | 0     |
| 28            | 51    | 47    | 38    | 38    | 23    | 15    |
| 27            | 78    | 64    | 63    | 39    | 25    | 13    |
| 26            | 105   | 103   | 64    | 40    | 21    | 22    |
| 25            | 172   | 107   | 67    | 36    | 37    | 38    |
| 24            | 168   | 106   | 57    | 58    | 59    | 47    |
| 23            | 168   | 90    | 91    | 93    | 75    | 66    |
| 22            | 229   | 232   | 236   | 190   | 168   | 167   |
| 21            | 486   | 493   | 398   | 352   | 350   | 347   |
| 20            | 720   | 581   | 514   | 511   | 507   | 551   |
| 19            | 754   | 667   | 664   | 659   | 716   | 929   |
| 18            | 712   | 709   | 703   | 764   | 991   | 1048  |
| 17            | 735   | 728   | 792   | 1027  | 1086  | 955   |
| 16            | 747   | 813   | 1054  | 1115  | 980   | 894   |
| LOSS          | 0     | 2932  | 2563  | 2240  | 1965  | 1727  |
| STRN          | 22502 | 19570 | 17007 | 14767 | 12802 | 11075 |

IF YOU WISH TO RUN AGAIN ENTER YES ELSE NO

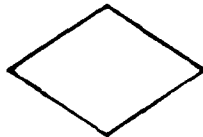


## USERS FLOW CHART

The flow chart on subsequent pages is provided as a "road map" for running AGER. The symbols used are explained below:



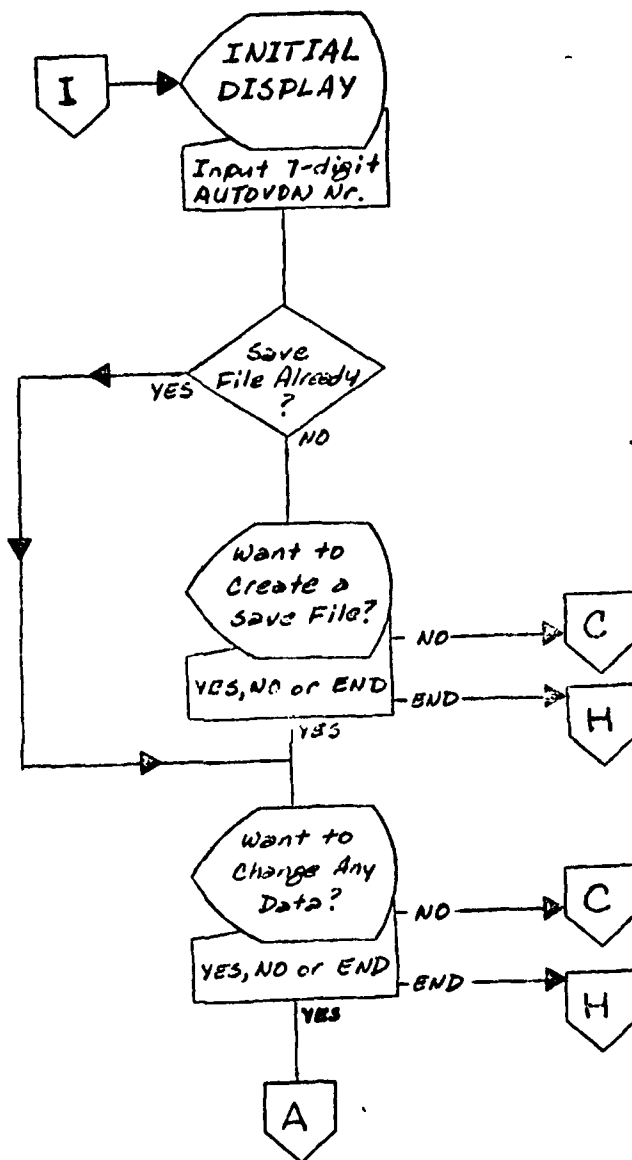
← A display  
← requiring some  
← manual input  
← from the user.

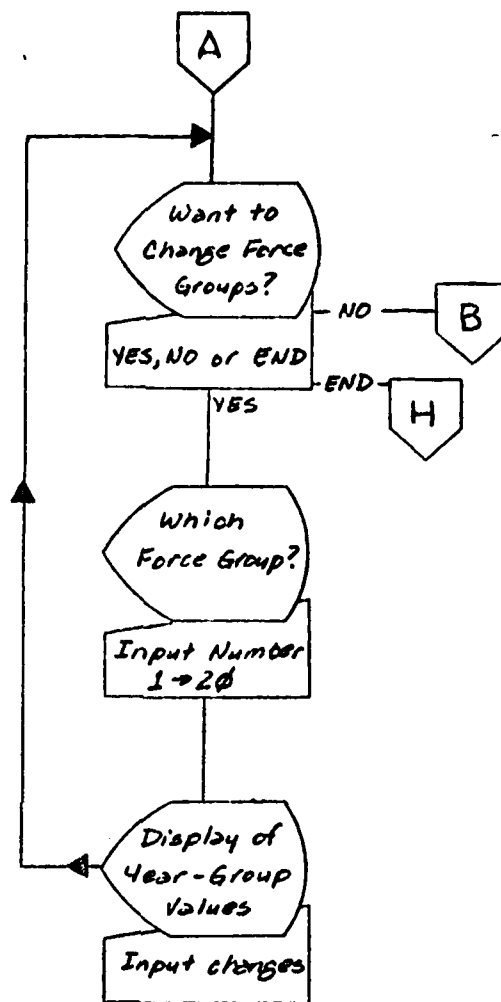


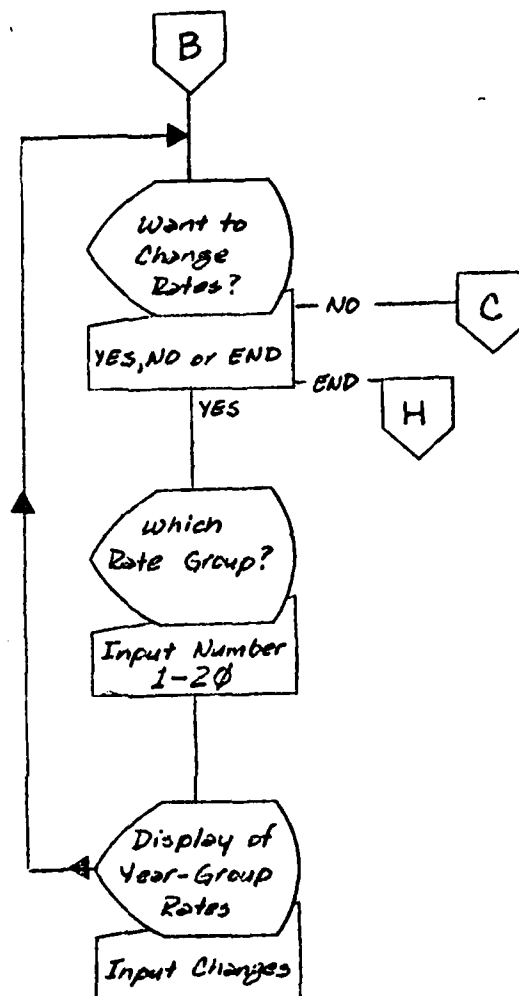
The computer program  
makes a decision  
here. Nothing is  
required from the user.

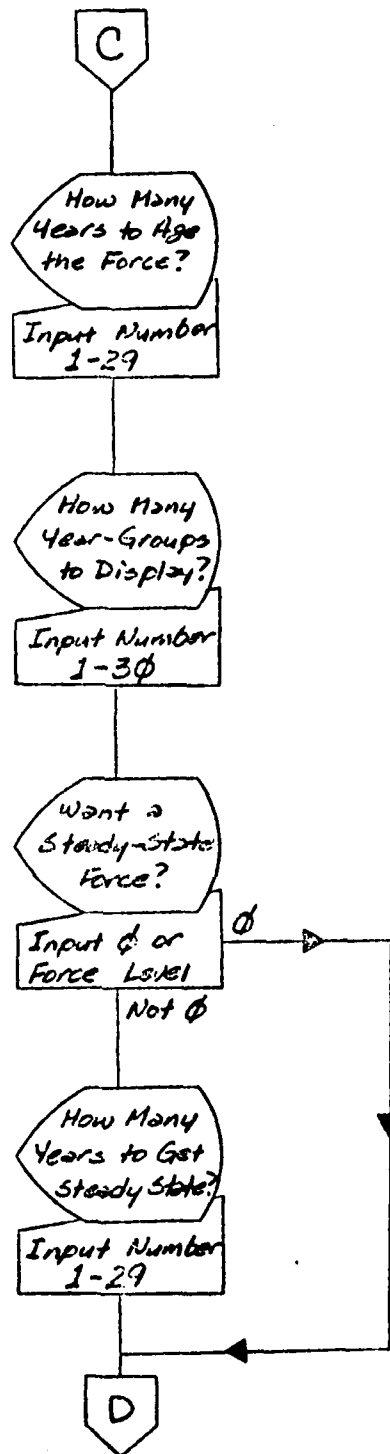


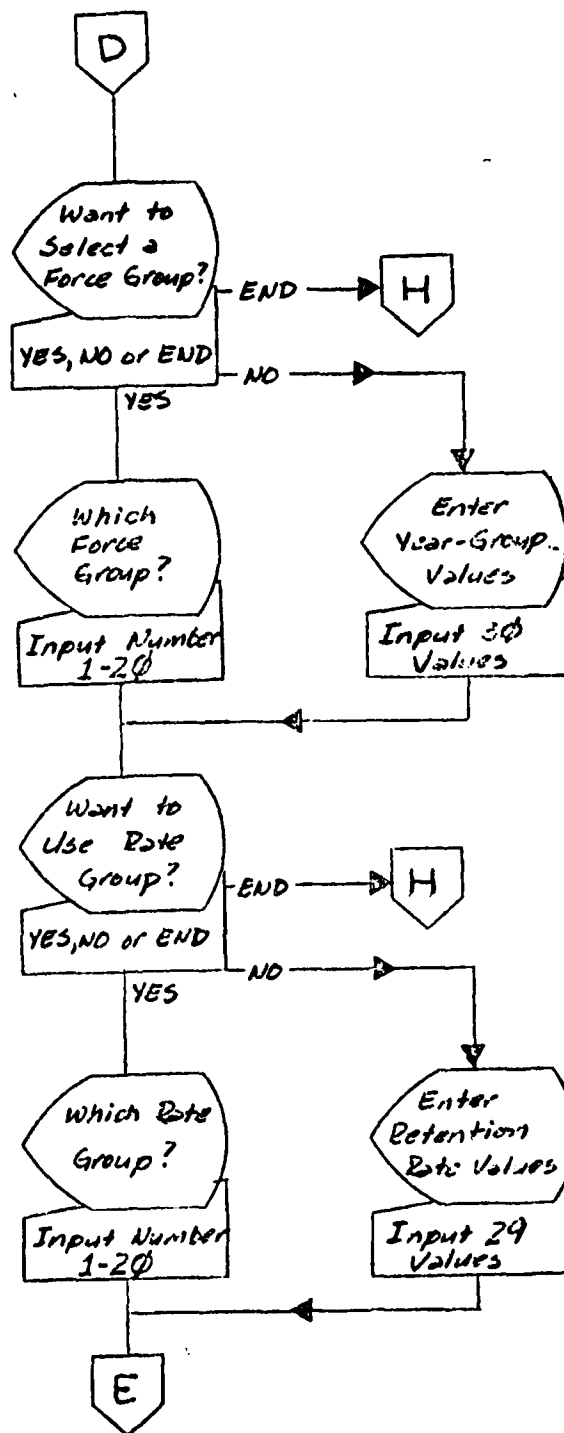
Connector to some  
other page of this  
flow chart.

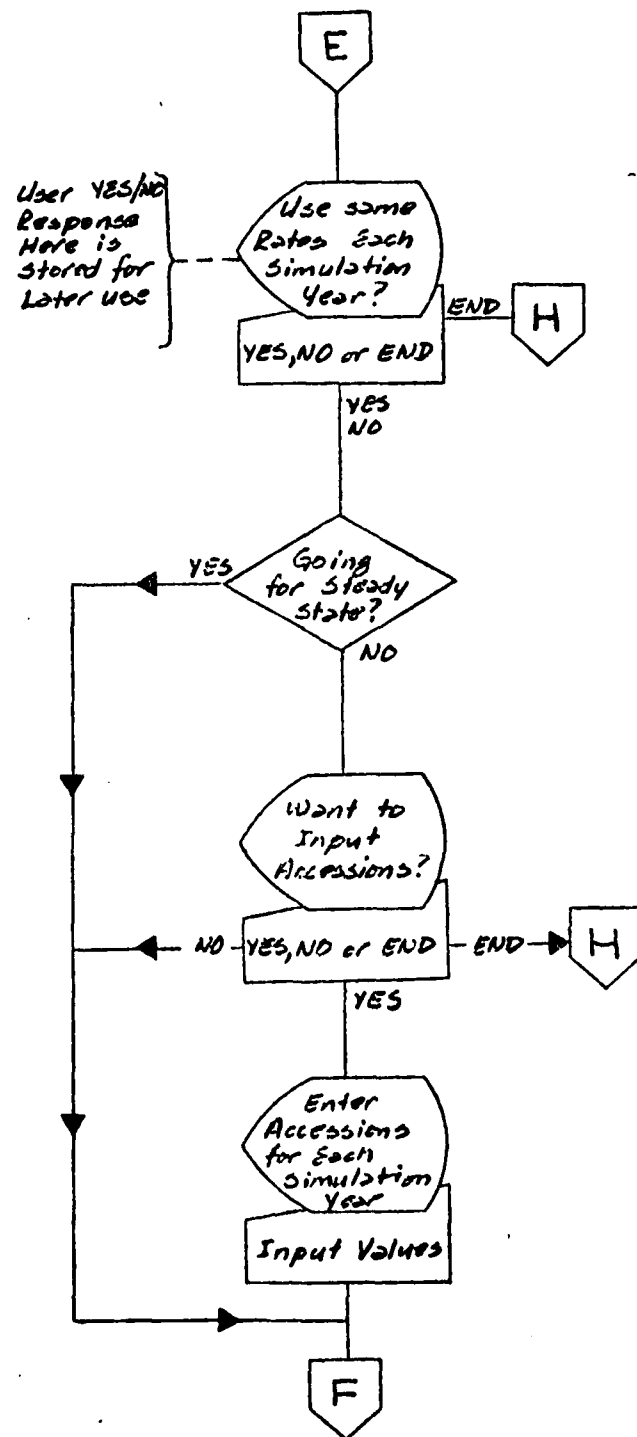


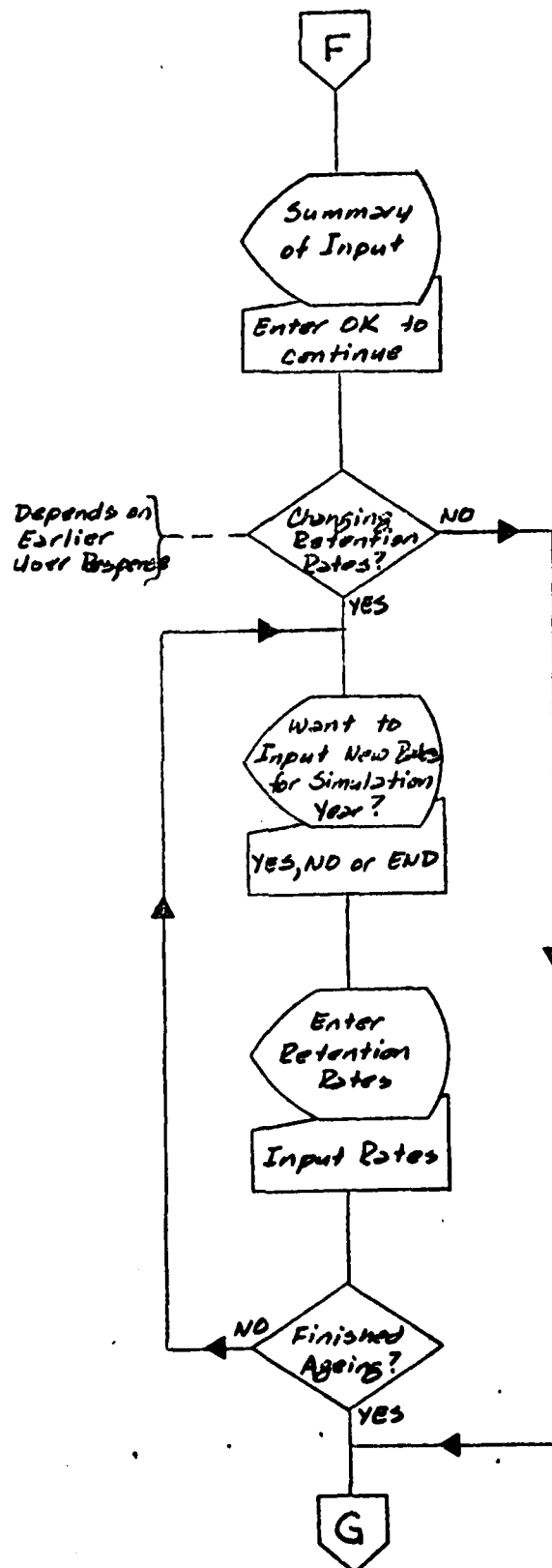




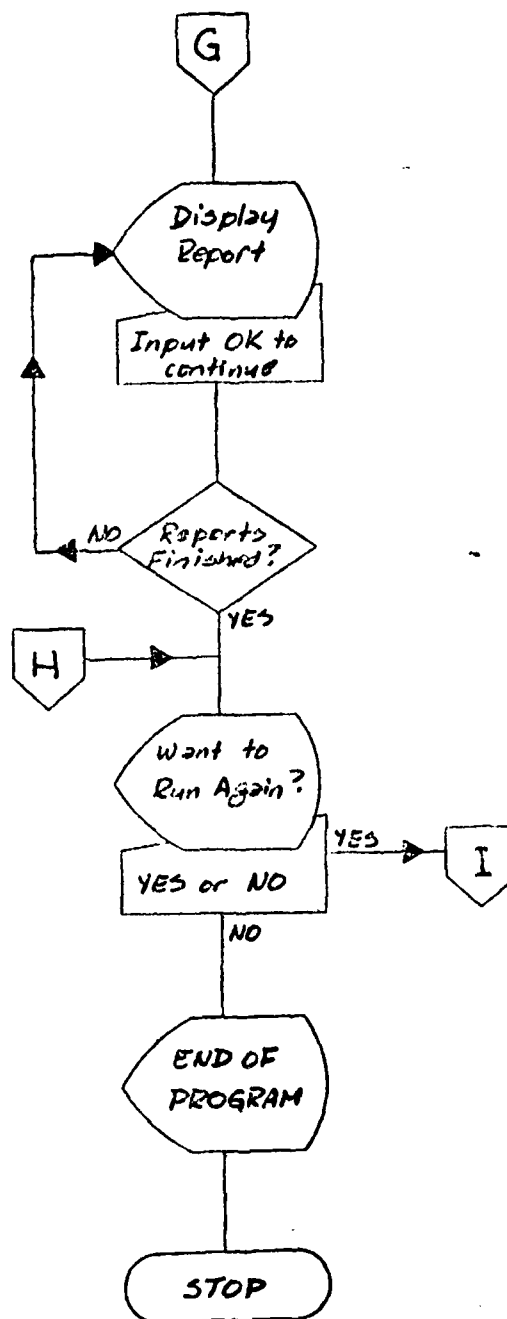












|      |  |        |
|------|--|--------|
| 100  | \$ SET LIST ERRLIST  | 000001 |
| 200  | BEGIN % AA   | 000002 |
| 300  | COMMENT  | 000003 |
| 400  | *****  | 000004 |
| 500  | *****  | 000005 |
| 600  |  | 000006 |
| 700  | PROGRAMMER: A1C JAMES R. STRATTON  | 000007 |
| 800  | LOCATION: AFMPC/MPCDDP7  | 000008 |
| 900  | RANDOLPH AFB, TX. 78148  | 000009 |
| 1000 | SPECIAL REMOTE CONTROL CHARACTERS USED IN THIS PROGRAM ARE:              | 000010 |
| 1100 | 4"OC00" - CLEAR AND HOME   | 000011 |
| 1200 | 4"3C00" - HOME (DC4)   | 000012 |
| 1300 | 4"13" - MOVES CURSOR UP ONE LINE (DC3)                                   | 000013 |
| 1400 | 4"11" - KEEPS REMOTE DEVICE IN RECEIVE MODE (DC1)                        | 000014 |
| 1500 | 4"00" - CARRIAGE RETURN  | 000015 |
| 1600 | 4"25" - LINE FEED  | 000016 |
| 1700 | *****  | 000017 |
| 1800 | *****  | 000018 |
| 1900 | INTEGER ARRAY FORCE[0:31,0:31], FORCEHOLD[0:59];                         | 000019 |
| 2000 | REAL ARRAY RETRATES[0:28], RETENHOLD[0:57];                              | 000020 |
| 2100 | REAL RHOLD;  | 000021 |
| 2200 | TRUTHSET FIRSTNUM("123456789"),  | 000022 |
| 2300 | RESTNUM("0123456789");   | 000023 |
| 2400 | FILE INPUT(KIND=REMOTE,UNITS=CHARACTERS,MAXRECSIZE=1920,MYUSE=3),        | 000024 |
| 2500 | OUTPUT(KIND=REMOTE,UNITS=CHARACTERS,MAXRECSIZE=1920);                    | 000025 |
| 2600 | FILE FORCEGROUPS(KIND=DISKPACK,  | 000026 |
| 2700 | PACKNAME="GUSDATA.",MAXRECSIZE=30,BLOCKSIZE=450,                         | 000027 |
| 2800 | UNITS=WORDS,MYUSE=10,AREAS=5,AREASIZE=15);                               | 000028 |
| 2900 | FILE UTIL(KIND=DISKPACK,PACKNAME="GUSDATA.",MAXRECSIZE=4,                | 000029 |
| 3000 | TITLE="AGEDFORCE/DATA/UTILIZATION.",MYUSE=10,                            | 000030 |
| 3100 | BLOCKSIZE=400,AREAS=1,AREASIZE=1000,UNITS=WORDS);                        | 000031 |
| 3200 | INTEGER YRSTOAGE,YRSPDISP,YRSTOSTEADY,STEADYFORCE,ACCSPERYR,TEMP,        | 000032 |
| 3300 | 11,12,13,14,15,TIM,REC,TAT1,TAT1;  | 000033 |
| 3400 | EBCDIC ARRAY REPTNAME[0:10],REPLY[0:5],TITLEARRAY[0:25],TITHOLD[0:25],   | 000034 |
| 3500 | URAY[0:23];  | 000035 |
| 3600 | BOOLEAN STEADYSTATE,ACCESSIONSINPUT,CHGRATES,DIDRUN,GOITITLE,GOIFILE;    | 000036 |
| 3700 | LABEL  | 000037 |
| 3800 | INPUTDATA,INITIALIZATION,STEADYPROC,NOTYET,REENTRY,WINDUP,               | 000038 |
| 3900 | FINISHED,OLDRATES,OLDLEVELS,OLDACCS,NEXTPAGE0,NEXTPAGE1,NEXTPAGE2,       | 000039 |
| 4000 | AGEYEARS,DISPLAYEARS,STEADYEAR,REUSEFORCE,REUSERATES,REUSEACCS,NEXTPAGE, | 000040 |
| 4100 | ACCESSIONSIN,BIGPICTURE,NEXTPAGE3,RATECHGREQ,CHGCHCK,NEXTPAGE4,THEEND;   | 000041 |
| 4200 | LABEL  | 000042 |
| 4300 | REPLYAGAIN1,TALLYFORCE,REPLYAGAIN2,REPLYAGAIN3,CHANGERATES,              | 000043 |
| 4400 | REPLYAGAIN4,REPLYAGAIN5,REPLYAGAIN6,EXT,INPUTLEVELS,INPUTRATES;          | 000044 |
| 4500 | DEFINE   | 000045 |
| 4600 | TA = INTEGER(URAY[17],7)*,   | 000046 |
| 4700 | TAT = INTEGER(URAY[7],10)*;  | 000047 |
| 4800 | \$PAGE   | 000048 |
| 4900 | DIDRUN:=FALSE;   | 000049 |
| 5000 | IF MYSELF.TASKVALUE EQL 500  | 000050 |
| 5100 | THEN BEGIN   | 000051 |
| 5200 | WRITE(OUTPUT,"THIS PROGRAM CAN NOT BE RUN FROM THIS DEVICE");            | 000052 |
| 5300 | GO TO THEEND;  | 000053 |
| 5400 | END;   | 000054 |
| 5500 | DIDRUN:=TRUE;  | 000055 |
| 5600 | WRITE(OUTPUT,"48"OC0011",48"0D25",48"0D25",48"0D25",                     | 000056 |
| 5700 | 48"0D25",48"0D25"48"0D25",X10,   | 000057 |

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5800      "AAA      GGGGG EEEEE FFFFF 00000 RRRRR CCCCC",      000058
5900      " EEEEE",48"OD25",X9,"AA AA GG GG EE FF 00",      000059
6000      " 00 RR RR CC CC EE",48"OD25",X8,"AA AA GO",X7,      000060
6100      "EEEE FFFF 00 00 RR RR CC EEEE",48"OD25",      000061
6200      X8,"AAAAAA GG GGGG EE FF 00 00 RRRR CC",      000062
6300      X7,"EE",48"OD25",X8,"AA AA GG GG EE FF 00",      000063
6400      " 00 RR RR CC CC EE",48"OD25",X8,"AA AA GGGGG",      000064
6500      " EEEEE FF 00000 RR RR CCCCC EEEEE",      000065
6600      48"OD25",48"OD25","MODIFICATIONS AS OF: DEC 79">);      000066
6700      WHEN(6);      000067
6800      INPUTDATA;      000068
6900      GOTFILE:=TRUE;      000069
7000      TIM:=TIME(2);      000070
7100      ACCESSIONSINPUT:=FALSE;      000071
7200      YRSTOSTEADY:=0;      000072
7300      FOR I1:=0 STEP 1 UNTIL 31      000073
7400          DO FOR I2:=0 STEP 1 UNTIL 31 DO FORCE[I1,I2]:=0;      000074
7500      FOR I1:=0 STEP 1 UNTIL 28 DO RETRATES[I1]:=1,0;      000075
7600      WRITE(OUTPUT,<48"OC0011">);      000076
7700      WRITE(OUTPUT,<"AGGREGATE MODEL TO AGE SELECTED ELEMENTS OF THE FORCE",      000077
7800          48"OD25", "ENTER YOUR 7-DIGIT AUTOVON NUMBER (I.E. 4872233).",48"OD25",      000078
7900          "THIS DATA IS ESSENTIAL FOR FILE MAINTENANCE AND MAY BE USED TO",      000079
8000          48"OD25", "VERIFY UTILIZATION.",48"OD25", "IF YOU DESIRE TO START",      000080
8100          " OVER AGAIN WHILE YOU ARE WORKING IN AGEFORCE",48"OD25",      000081
8200          "JUST ENTER AN 'END' RESPONSE WHEN A 'YES' OR 'NO' RESPONSE IS",      000082
8300          " REQUESTED.",48"OD25", "BE CAREFUL THOUGH, IF YOU ENTER 'END'",      000083
8400          " ANY OTHER TIME",48"OD25", "THE PROGRAM MAY TERMINATE ABNORMALLY.",      000084
8500          48"3C0013">);      000085
8600      READ(INPUT,TIMELIMIT 6301,<A12>,REPTNAME[0]);      000086
8700      % TIMELIMIT STAYS IN EFFECT FOR ENTIRE PROGRAM      000087
8800      IF NOT REPTNAME[0] IN FIRSTNUM THEN GO TO INPUTDATA;      000088
8900      FOR I1:=1 STEP 1 UNTIL 6 DO      000089
9000          IF NOT REPTNAME[I1] IN RESTNUM THEN GO TO INPUTDATA;      000090
9100      REPLACE TITLEARRAY[0] BY " " FOR 28;      000091
9200      REPLACE TITLEARRAY[0] BY "AGEDFORCE/DATA/A";      000092
9300      FOR I1:=0 STEP 1 UNTIL 10 DO      000093
9400          IF REPTNAME[I1] = " " THEN      000094
9500              REPLACE REPTNAME[I1] BY " ";      000095
9600      REPLACE TITLEARRAY[16] BY REPTNAME[0] FOR 11;      000096
9700      REPLACE FORCEGROUPS.TITLE BY TITLEARRAY[0];      000097
9800      IF NOT FORCEGROUPS.RESIDENT      000098
9900          THEN BEGIN      000099
10000          WRITE(OUTPUT,<48"OC00", "YOU DO NOT HAVE A SAVE FILE FOR FORCE ",      000100
10100          "AND RATE DATA.",48"OD25", "DO YOU WANT TO CREATE A PERMANENT ",      000101
10200          "FILE? (ENTER YES OR NO).",48"3C0013">);      000102
10300          READ(INPUT,<A3>,REPLY[0]);      000103
10400          IF REPLY[0] EQL "END" THEN GO FINISHED;      000104
10500          IF REPLY[0] EQL "NO"      000105
10600              THEN BEGIN      000106
10700                  GOTFILE:=FALSE;      000107
10800                  FOR I1:=0 STEP 1 UNTIL 99 DO      000108
10900                      BEGIN      000109
11000                          READ(UTL[I1],4,URAY[0]);      000110
11100                          IF URAY[0] = REPTNAME[0] FOR 7      000111
11200                              THEN BEGIN      000112
11300                                  REC:=11;      000113
11400                                  GO TO AGEYEARS;      000114
11500                                  END;      000115
11600                              END;      000116
11700          END;      000117

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|       |  |        |
|-------|--|--------|
| 11800 | FOR I1:=0 STEP 1 UNTIL 99 DO                               | 000111 |
| 11900 | BEGIN  | 000111 |
| 12000 | READ(UTIL(I1),4,URAY(O1));                                 | 000120 |
| 12100 | IF URAY(O1) = "0" THEN                                     | 000120 |
| 12200 | BEGIN  | 000120 |
| 12300 | REPLACE URAY(O1) BY REPTNAME(O1) FOR 7;                    | 000120 |
| 12400 | REC:=11;   | 000120 |
| 12500 | REPLACE URAY(7) BY "0" FOR 17;                             | 000120 |
| 12600 | WRITE(UTIL(I1),4,URAY(O1));                                | 000120 |
| 12700 | I1:=100;   | 000120 |
| 12800 | LOCK(UTIL);  | 000120 |
| 12900 | END;   | 000120 |
| 13000 | END;   | 000130 |
| 13100 | GO TO AGEYEARS;  | 000130 |
| 13200 | END  | 000130 |
| 13300 | ELSE BEGIN   | 000130 |
| 13400 | FORCEGROUPS.MYUSE := 2;                                    | 000130 |
| 13500 | FOR I1:=0 STEP 1 UNTIL 19 DO                               | 000130 |
| 13600 | WRITE(FORCEGROUPS(I1),<30T6>,FOR I2:=0 STEP 1              | 000130 |
| 13700 | UNTIL 29 DO (I3:=0));                                      | 000130 |
| 13800 | FOR I1:=20 STEP 1 UNTIL 39 DO                              | 000130 |
| 13900 | WRITE(FORCEGROUPS(I1),<30F6.4>,FOR I2:=0 STEP 1            | 000130 |
| 14000 | UNTIL 29 DO (I3:=1.0));                                    | 000130 |
| 14100 | LOCK(FORCEGROUPS);   | 000140 |
| 14200 | FORCEGROUPS.MYUSE := 3;                                    | 000140 |
| 14300 | FOR I1:=0 STEP 1 UNTIL 99 DO                               | 000140 |
| 14400 | BEGIN  | 000140 |
| 14500 | READ(UTIL(I1),4,URAY(O1));                                 | 000140 |
| 14600 | IF URAY(O1) = "0"  | 000140 |
| 14700 | THEN BEGIN   | 000140 |
| 14800 | REPLACE URAY(O1) BY REPTNAME(O1) FOR 7;                    | 000140 |
| 14900 | REC:=11;   | 000140 |
| 15000 | REPLACE URAY(7) BY "0" FOR 17;                             | 000150 |
| 15100 | WRITE(UTIL(I1),4,URAY(O1));                                | 000150 |
| 15200 | I1:=100;   | 000150 |
| 15300 | LOCK(UTIL);  | 000150 |
| 15400 | END;   | 000150 |
| 15500 | END;   | 000150 |
| 15600 | END;   | 000150 |
| 15700 | END  | 000150 |
| 15800 | ELSE BEGIN   | 000150 |
| 15900 | FOR I1:=0 STEP 1 UNTIL 99 DO                               | 000150 |
| 16000 | BEGIN  | 000160 |
| 16100 | READ(UTIL(I1),4,URAY(O1));                                 | 000160 |
| 16200 | IF URAY(O1) = REPTNAME(O1) FOR 7                           | 000160 |
| 16300 | THEN BEGIN   | 000160 |
| 16400 | REC:=11;   | 000160 |
| 16500 | GO TO EXT;   | 000160 |
| 16600 | END;   | 000160 |
| 16700 | END;   | 000160 |
| 16800 | EXT:   | 000160 |
| 16900 | WRITE(OUTPUT,<48"0C00", "DO YOU WISH TO MAKE CHANGES TO ", | 000160 |
| 17000 | "YOUR DATA? (ENTER YES OR NO)",                            | 000170 |
| 17100 | 48"3C0013">);  | 000170 |
| 17200 | READ(INPUT,<A9>,REPLY(O1));                                | 000170 |
| 17300 | IF REPLY(O1) EQL "END" THEN GO FINISHED;                   | 000170 |
| 17400 | IF REPLY(O1) EQL "NO" THEN GO TO AGEYEARS;                 | 000170 |
| 17500 | END;   | 000170 |
| 17600 |  | 000170 |
| 17700 | REPLYAGAIN2:   | 000170 |

|       |  |       |
|-------|--|-------|
| 17800 | WRITE(OUTPUT,<48"OC00","DO YOU WISH TO CHANGE ANY OF THE FORCE ",        | 00017 |
| 17900 | "GROUPS (ENTER YES OR NO)?",48"3C0013">);                                | 00017 |
| 18000 | READ(INPUT,<A3>,REPLY[0]);   | 00018 |
| 18100 | IF REPLY[0] EQL "END" THEN GO FINISHED;                                  | 00018 |
| 18200 | IF REPLY[0] NEQ "YES" AND REPLY[0] NEQ "NO"                              | 00018 |
| 18300 | THEN GO TO REPLYAGAIN2;  | 00018 |
| 18400 | IF REPLY[0] EQL "NO"   | 00018 |
| 18500 | THEN GO TO CHANGERATES;  | 00018 |
| 18600 |  | 00018 |
| 18700 | REPLYAGAIN3:   | 00018 |
| 18800 | WRITE(OUTPUT,<48"OC00","THERE ARE 20 FORCE GROUPS AVAILABLE FOR YOUR",   | 00018 |
| 18900 | " USE.",48"OD25","ENTER THE NUMERIC CODE(1-20) OF THE GROUP"             | 00018 |
| 19000 | ,48"OD25", " YOU WISH TO USE.",48"3C0013">);                             | 00019 |
| 19100 | READ(INPUT,/,11);  | 00019 |
| 19200 | IF 11 LSS 1 OR 11 GTR 20   | 00019 |
| 19300 | THEN GO TO REPLYAGAIN3;  | 00019 |
| 19400 | READ(FORCEGROUPS[11-1],<3016>,FOR 12:=0 STEP 1 UNTIL 29 DO FORCE[12,0]); | 00019 |
| 19500 | WRITE(OUTPUT,<48"OC0011","THE CONFIGURATION OF GROUP ",12," IS ",        | 00019 |
| 19600 | "PRESENTLY AS FOLLOWS.",48"OD25",X1,"YR-GP",                             | 00019 |
| 19700 | 48"OD25",X2,"1 - 10",X2,10(X1,16),48"OD25",X1,"11 - 20",X2,              | 00019 |
| 19800 | 10(X1,16),48"OD25",X1,"21 - 30",X2,10(X1,16),                            | 00019 |
| 19900 | 48"OD2525","TO CHANGE THE FORCE LEVELS, INPUT",                          | 00019 |
| 20000 | " YEARGROUP,LEVEL,YEARGROUP,"48"OD25","LEVEL,ETC., (EX.",                | 00020 |
| 20100 | " 2,364,12,1024,*)",48"OD25","TERMINATE INPUT WITH AN",                  | 00020 |
| 20200 | " ASTERISK.",48"OD25","YOU CAN CHANGE ANY OR ALL",                       | 00020 |
| 20300 | " YEAR GROUPS THIS WAY.",48"3C0013">),                                   | 00020 |
| 20400 | 11,FOR 12:=0 STEP 1 UNTIL 29 DO FORCE[12,0]);                            | 00020 |
| 20500 |  | 00020 |
| 20600 | READ(INPUT,/,FOR 12:=0 STEP 1 UNTIL 59 DO FORCEHOLD[12]);                | 00020 |
| 20700 | FOR 12 := 0 STEP 2 UNTIL 58 DO   | 00020 |
| 20800 | IF (12 := FORCEHOLD[12]) GTR 0 AND 10-LEG-00 AND (10-MOD-1)              | 00020 |
| 20900 | EQL 0  | 00020 |
| 21000 | THEN FORCE[13-1,0] := FORCEHOLD[12+1];                                   | 00021 |
| 21100 |  | 00021 |
| 21200 |  | 00021 |
| 21300 | WRITE(FORCEGROUPS[11-1],<3016>,FOR 12:=0 STEP 1 UNTIL 29                 | 00021 |
| 21400 | DO FORCE[12,0]);   | 00021 |
| 21500 | LOCK(FORCEGROUPS);   | 00021 |
| 21600 | FOR 12:=0 STEP 1 UNTIL 29 DO FORCE[12,0] := 0;                           | 00021 |
| 21700 | FOR 12:=0 STEP 1 UNTIL 59 DO FORCEHOLD[12] := 0;                         | 00021 |
| 21800 | GO TO REPLYAGAIN2;   | 00021 |
| 21900 |  | 00021 |
| 22000 | CHANGERATES:   | 00022 |
| 22100 | WRITE(OUTPUT,<48"OC00","DO YOU WISH TO CHANGE THE RETENTION ",           | 00022 |
| 22200 | "RATES",48"OD25","(ENTER YES OR NO) ?",48"3C0013">);                     | 00022 |
| 22300 | READ(INPUT,<A3>,REPLY[0]);   | 00022 |
| 22400 | IF REPLY[0] EQL "END" THEN GO FINISHED;                                  | 00022 |
| 22500 | IF REPLY[0] EQL "NO"   | 00022 |
| 22600 | THEN GO TO AGEYEARS;   | 00022 |
| 22700 | IF REPLY[0] NEQ "YES"  | 00022 |
| 22800 | THEN GO TO CHANGERATES;  | 00022 |
| 22900 |  | 00022 |
| 23000 | REPLYAGAIN5:   | 00023 |
| 23100 | WRITE(OUTPUT,<48"OC00", "RETENTION RATE ",                               | 00023 |
| 23200 | "GROUPS 1-THRU 20-ARE AVAILABLE.",48"OD25",                              | 00023 |
| 23300 | "ENTER THE NUMERIC CODE OF THE GROUP YOU WISH TO CHANGE.",               | 00023 |
| 23400 | 48"3C0013">);  | 00023 |
| 23500 | READ(INPUT,/,11);  | 00023 |
| 23600 | IF 11 LSS 1 OR 11 GTR 20   | 00023 |
| 23700 | THEN GO TO REPLYAGAIN5;  | 00023 |

|       |  |        |
|-------|--|--------|
| 23800 | READ(FORCEGROUPS[19+11], <29F6.4>, FOR I2:=0 STEP 1 UNTIL 28               | 000238 |
| 23900 | DO REATRATES[I2];  | 000239 |
| 24000 | WRITE(OUTPUT, <48"0C00", "THE CURRENT RATES ARE:", 48"0D25", X2, "YRS",    | 000240 |
| 24100 | 48"0D25", "1 - 10", X2, 10(X1, F5.3), 48"0D25", "11 - 20", X2,             | 000241 |
| 24200 | 10(X1, F5.3), 48"0D25", "21 - 25", X2, 9(X1, F5.3), 48"0D2525",            | 000242 |
| 24300 | "TO CHANGE RATES, INPUT YEARGROUP, RATE, YEARGROUP, RATE, ETC.", 48"0D25", | 000243 |
| 24400 | "(EXT: 2, 463, 15, 376, *), 48"0D25", "TERMINATE INPUT WITH AN",           | 000244 |
| 24500 | "ASTERISK.", 48"0D25", "YOU CAN ENTER ANY OR ALL RATES",                   | 000245 |
| 24600 | "THIS WAY.", 48"3C0013">, FOR I2:=0 STEP 1 UNTIL 28 DO REATRATES[I2];      | 000246 |
| 24700 | READ(INPUT, /, FOR I2:=0 STEP 1 UNTIL 57 DO RETENHOLD[I2]);                | 000247 |
| 24800 | FOR I2:=0 STEP 2 UNTIL 56 DO   | 000248 |
| 24900 | IF (RHOLD := RETENHOLD[I2]) GTR 0 AND RHOLD LEQ 30 AND (RHOLD              | 000249 |
| 25000 | MOD 1) EQL 0   | 000250 |
| 25100 | THEN REATRATES[RHOLD - 1] := RETENHOLD[I2+1];                              | 000251 |
| 25200 |  | 000252 |
| 25300 |  | 000253 |
| 25400 | WRITE(FORCEGROUPS[19+11], <29F6.4>, FOR I2:=0 STEP 1 UNTIL 28              | 000254 |
| 25500 | DO REATRATES[I2];  | 000255 |
| 25600 | FOR I2:=0 STEP 1 UNTIL 28 DO REATRATES[I2] := 0;                           | 000256 |
| 25700 | FOR I2:=0 STEP 1 UNTIL 57 DO RETENHOLD[I2] := 0;                           | 000257 |
| 25800 | LOCK(FORCEGROUPS);   | 000258 |
| 25900 | GO TO CHANGERATES;   | 000259 |
| 26000 |  | 000260 |
| 26100 | AGEYEARS:  | 000261 |
| 26200 | WRITE(OUTPUT, <48"0C00", "HOW MANY YEARS DO YOU WISH TO AGE THE FORCE",    | 000262 |
| 26300 | " - 1-29 ?", 48"3C0013">);   | 000263 |
| 26400 | READ(INPUT, /, YRSTOAGE);  | 000264 |
| 26500 | IF YRSTOAGE LSS 1 OR YRSTOAGE GTR 29                                       | 000265 |
| 26600 | THEN GO TO AGEYEARS;   | 000266 |
| 26700 |  | 000267 |
| 26800 | DISPLEYEARS:   | 000268 |
| 26900 | WRITE(OUTPUT, <48"0C00", "HOW MANY YEAR GROUPS DO YOU WISH TO DISPLAY",    | 000269 |
| 27000 | " - 1-30 ?", 48"3C0013">);   | 000270 |
| 27100 | READ(INPUT, /, YRSPDISP);  | 000271 |
| 27200 | IF YRSPDISP LSS 1 OR YRSPDISP GTR 30                                       | 000272 |
| 27300 | THEN GO TO DISPLEYEARS;  | 000273 |
| 27400 | WRITE(OUTPUT, <48"0C00", "IF YOU WANT TO ACHIEVE AND MAINTAIN A ",         | 000274 |
| 27500 | "STEADY-STATE FORCE.", 48"0D25", "THEN ENTER THE FORCE LEVEL",             | 000275 |
| 27600 | " - YOU WANT TO ACHIEVE - ", 48"0D25", "OTHERWISE ENTER 0(ZERO).",         | 000276 |
| 27700 | 48"3C0013">);  | 000277 |
| 27800 | READ(INPUT, /, STEADYFORCE);   | 000278 |
| 27900 | IF STEADYFORCE NEQ 0   | 000279 |
| 28000 | THEN STEADYSTATE := TRUE;  | 000280 |
| 28100 | ELSE STEADYSTATE := FALSE;   | 000281 |
| 28200 | IF STEADYSTATE   | 000282 |
| 28300 | THEN BEGIN % BB  | 000283 |
| 28400 | STEADYEAR:   | 000284 |
| 28500 | WRITE(OUTPUT, <48"0C00", "HOW MANY YEARS DO YOU WANT TO TAKE ",            | 000285 |
| 28600 | 48"0D25", "TO FIRST ACHIEVE THE STEADY-STATE FORCE? (1-29)",               | 000286 |
| 28700 | 48"3C0013">);  | 000287 |
| 28800 | READ(INPUT, /, YRSTOSTEADY);   | 000288 |
| 28900 | IF YRSTOSTEADY LSS 1 OR YRSTOSTEADY GTR 29                                 | 000289 |
| 29000 | THEN GO TO STEADYEAR;  | 000290 |
| 29100 | END; % BB  | 000291 |
| 29200 |  | 000292 |
| 29300 | REPLYAGAIN1:   | 000293 |
| 29400 | IF NOT GOTFILE THEN GO TO INPUTLEVELS;                                     | 000294 |
| 29500 | WRITE(OUTPUT, <48"0C00", "IF YOU WOULD LIKE TO SELECT A FORCE GR",         | 000295 |
| 29600 | " - OUP THEN ENTER YES ELSE NO", 48"3C0013">);                             | 000296 |
| 29700 | READ(INPUT, <A3>, REPLY[0]);   | 000297 |

|       |  |        |
|-------|--|--------|
| 29800 | IF REPLY[0] EQL "END" THEN GO FINISHED;                                    | 000298 |
| 29900 | IF REPLY[0] NEQ "YES" AND REPLY[0] NEQ "NO"                                | 000299 |
| 30000 | THEN GO TO REPLYAGAIN1;  | 000300 |
| 30100 | IF REPLY[0] EQL "YES"  | 000301 |
| 30200 | THEN BEGIN   | 000302 |
| 30300 | WRITE(OUTPUT, <48"OC00", "THERE ARE 20 FORCE GROUPS AVAILABLE FOR",        | 000303 |
| 30400 | " YOUR USE.", 48"OD25", "ENTER THE NUMERIC CODE(1-20) OF",                 | 000304 |
| 30500 | 48"OD25", " THE GROUP YOU WISH TO USE.", 48"3C0013">);                     | 000305 |
| 30600 | READ(INPUT, /, 11);  | 000306 |
| 30700 | IF 11 LSS 1 OR 11 GTR 20   | 000307 |
| 30800 | THEN GO TO REPLYAGAIN1;  | 000308 |
| 30900 | READ(FORCEGROUPS[11-1], <3016>, FOR 12:=0 STEP 1 UNTIL 29                  | 000309 |
| 31000 | DO FORCE[12,0]);   | 000310 |
| 31100 | GO TO TALLYFORCE;  | 000311 |
| 31200 | END;   | 000312 |
| 31300 | INPUTLEVELS:   | 000313 |
| 31400 | WRITE(OUTPUT, <48"OC00", "ENTER 30 YEAR GROUP FORCE LEVELS, ASTERISK",     | 000314 |
| 31500 | " WILL TERMINATE INPUT", 48"3C0013">);                                     | 000315 |
| 31600 | READ(INPUT, /, FOR 11:=0 STEP 1 UNTIL 29 DO FORCE[11,0]);                  | 000316 |
| 31700 |  | 000317 |
| 31800 | TALLYFORCE:  | 000318 |
| 31900 | FOR 11:= 0 STEP 1 UNTIL 29 DO FORCE[31,0] := FORCE[31,0] + FORCE[11,0];    | 000319 |
| 32000 |  | 000320 |
| 32100 | REPLYAGAIN4:   | 000321 |
| 32200 | IF NOT GOTFILE THEN GO TO INPUTRATES;                                      | 000322 |
| 32300 | WRITE(OUTPUT, <48"OC00", "DO YOU WISH TO USE THE RETENTION RA",            | 000323 |
| 32400 | "TES (ENTER YES OR NO) ?", 48"3C0013">);                                   | 000324 |
| 32500 | READ(INPUT, <A3>, REPLY[0]);   | 000325 |
| 32600 | IF REPLY[0] EQL "END" THEN GO FINISHED;                                    | 000326 |
| 32700 | IF REPLY[0] NEQ "YES" AND REPLY[0] NEQ "NO"                                | 000327 |
| 32800 | THEN GO TO REPLYAGAIN4;  | 000328 |
| 32900 | IF REPLY[0] EQL "YES"  | 000329 |
| 33000 | THEN BEGIN   | 000330 |
| 33100 |  | 000331 |
| 33200 | REPLYAGAIN6:   | 000332 |
| 33300 | WRITE(OUTPUT, <48"OC00",   | 000333 |
| 33400 | "RETENTION RATE GROUPS 1 THRU 20 ARE AVAILABLE FOR USE.",                  | 000334 |
| 33500 | 48"OD25", "ENTER THE NUMERIC CODE",  | 000335 |
| 33600 | " OF THE GROUP YOU WISH TO USE.", 48"3C0013">);                            | 000336 |
| 33700 | READ(INPUT, /, 11);  | 000337 |
| 33800 | IF 11 LSS 1 OR 11 GTR 20   | 000338 |
| 33900 | THEN GO TO REPLYAGAIN6;  | 000339 |
| 34000 | READ(FORCEGROUPS[19+1], <29F6.4>, FOR 12:=0 STEP 1 UNTIL 29                | 000340 |
| 34100 | DO RETRATES[12]);  | 000341 |
| 34200 | GO TO OLDRATES;  | 000342 |
| 34300 | END;   | 000343 |
| 34400 | INPUTRATES:  | 000344 |
| 34500 | FOR 12:=0 STEP 1 UNTIL 28 DO RETRATES[12]:=1.0;                            | 000345 |
| 34600 | WRITE(OUTPUT, <48"OC00", "ENTER 29 RETENTION RATES, AN ASTERISK WILL ",    | 000346 |
| 34700 | "TERMINATE INPUT.", 48"OD25", "ENTER WITH DECIMAL POINT. ",                | 000347 |
| 34800 | "(EXAMPLE: 129, 1.0, 4567, .994)", 48"3C0013">);                           | 000348 |
| 34900 | READ(INPUT, /, FOR 11:=0 STEP 1 UNTIL 28 DO RETRATES[11]);                 | 000349 |
| 35000 |  | 000350 |
| 35100 | OLDRATES:  | 000351 |
| 35200 | WRITE(OUTPUT, <48"OC00", "DO YOU INTEND TO USE THE SAME RETENTION RATES",  | 000352 |
| 35300 | " FOR EVERY SIMULATION YEAR ?", 48"OD25", "ENTER YES OR NO", 48"3C0013">); | 000353 |
| 35400 |  | 000354 |
| 35500 | RATECHGREQ:  | 000355 |
| 35600 | READ(INPUT, <A3>, REPLY[0]);   | 000356 |
| 35700 | IF REPLY[0] EQL "END" THEN GO FINISHED;                                    | 000357 |

|       |   |        |
|-------|---|--------|
| 35800 | IF REPLY[0] NEQ "YES" AND REPLY[0] NEQ "NO"                                   | 000358 |
| 35900 | THEN GO TO RATECHGREQ;  | 000359 |
| 36000 | IF REPLY[0] EQL "NO"  | 000360 |
| 36100 | THEN CHGRATES := TRUE   | 000361 |
| 36200 | ELSE CHGRATES := FALSE;   | 000362 |
| 36300 | IF STEADYSTATE  | 000363 |
| 36400 | THEN GO TO STEADYPROC;  | 000364 |
| 36500 |   | 000365 |
| 36600 | ACCESSIONSIN:   | 000366 |
| 36700 | WRITE(OUTPUT, <48"0C00", "IF YOU WISH TO INPUT ACCESSIONS ENTER YES, ",       | 000367 |
| 36800 | " ELSE ENTER NO", 48"3C0013">);   | 000368 |
| 36900 | READ(INPUT, <A3>, REPLY[0]);  | 000369 |
| 37000 | IF REPLY[0] EQL "END" THEN GO FINISHED;                                       | 000370 |
| 37100 | IF REPLY[0] EQL "YES"   | 000371 |
| 37200 | THEN BEGIN % CC   | 000372 |
| 37300 | ACCESSIONSINPUT := TRUE;  | 000373 |
| 37400 | WRITE(OUTPUT, <48"0C00", "ENTER ACCESSIONS FOR EACH OF THE ", 12,             | 000374 |
| 37500 | " SIMULATION YEARS. ", 48"0D25", "EX: 100, 300, 500 ETC. ",                   | 000375 |
| 37600 | 48"3C0013">, YRSTOAGE);   | 000376 |
| 37700 | READ(INPUT, /, FOR 11:=1 STEP 1 UNTIL YRSTOAGE DO FORCE[0, 11]);              | 000377 |
| 37800 | END   | 000378 |
| 37900 | ELSE IF REPLY[0] NEQ "NO"   | 000379 |
| 38000 | THEN GO TO ACCESSIONSIN;  | 000380 |
| 38100 |   | 000381 |
| 38200 | OLDACCS:  | 000382 |
| 38300 |   | 000383 |
| 38400 | REENTRY:  | 000384 |
| 38500 | WRITE(OUTPUT, <48"0C00", 70(" "), 48"0D25", X33, "SUMMARY OF INPUT",          | 000385 |
| 38600 | 48"0D25", X3, "NAME OF REPORT: ", A12, 48"0D25", X3,                          | 000386 |
| 38700 | " YEARS TO AGE THE FORCE: ", 12, 48"0D25", X3, " YEAR GROUPS",                | 000387 |
| 38800 | " TO DISPLAY: ", 12, 48"0D25", X3, " STEADY-STATE DESIRED: ",                 | 000388 |
| 38900 | 48"11", A3, X3, 16>, REPINAME[0], YRSTOAGE, YRGP50ISP,                        | 000389 |
| 39000 | IF STEADYSTATE THEN "YES" ELSE "NO ", STEADYFORCE);                           | 000390 |
| 39100 | WRITE(OUTPUT, <X3, "STEADY STATE IN HOW MANY YEARS: ", 12, 48"0D25", X3,      | 000391 |
| 39200 | "YR-GP", X25, "YEAR ONE FORCE LEVELS", 48"0D25", X3, "1-10", X2,              | 000392 |
| 39300 | 10(16, X1), 48"0D25",   | 000393 |
| 39400 | X3, "11-20", X1, 10(16, X1), 48"0D25", X3, "21-30", X1, 10(16, X1), 48"0D25", | 000394 |
| 39500 | X4, "YRS", X26, "RETENTION RATES", 48"0D25", X3, "1-10", X2,                  | 000395 |
| 39600 | 10(F5.3, X1), 48"0D25", X2, "11-20", X2, 10(F5.3, X1), 48"0D25", X2, "21-29"  | 000396 |
| 39700 | , X2, 9(F5.3, X1), 48"11">, YRSTOSTEADY, FOR 11 := 0                          | 000397 |
| 39800 | STEP 1 UNTIL 29 DO FORCE[11, 0], FOR 11:=0 STEP 1 UNTIL 28 DO                 | 000398 |
| 39900 | RETRATES[11]);  | 000399 |
| 40000 | IF ACCESSIONSINPUT THEN   | 000400 |
| 40100 | WRITE(OUTPUT, <X4, "YRS", X26, "ACCESSIONS", 48"0D25", X3, "2-11", X2,        | 000401 |
| 40200 | 10(16, X1), 48"0D25", X3, "12-21", X1, 10(16, X1), 48"0D25", X3, "22-30", X1, | 000402 |
| 40300 | 9(16, X1), 48"11">, FOR 11:=1 STEP 1 UNTIL 29 DO FORCE[0, 11]);               | 000403 |
| 40400 | WRITE(OUTPUT, <70(" "), 48"11">);   | 000404 |
| 40500 |   | 000405 |
| 40600 | NEXTPAGE:   | 000406 |
| 40700 | WRITE(OUTPUT, <"ENTER OK FOR NEXT PAGE OF REPORT", 48"3C0013">);              | 000407 |
| 40800 | READ(INPUT, <A2>, REPLY[0]);  | 000408 |
| 40900 | IF REPLY[0] NEQ "OK"  | 000409 |
| 41000 | THEN GO TO NEXTPAGE;  | 000410 |
| 41100 | FOR 11:=1 STEP 1 UNTIL YRSTOAGE DO  | 000411 |
| 41200 | BEGIN % DO  | 000412 |
| 41300 | FORCE[31, 11] := FORCE[0, 11];  | 000413 |
| 41400 | FOR 12:=1 STEP 1 UNTIL 29 DO  | 000414 |
| 41500 | BEGIN % EE  | 000415 |
| 41600 | FORCE[12, 11] := FORCE[12-1, 11-1] * RETRATES[12-1];                          | 000416 |
| 41700 | FORCE[31, 11] := FORCE[31, 11] + FORCE[12, 11];                               | 000417 |



|       |   |       |
|-------|---|-------|
| 41800 | FORCE[30,11] := FORCE[30,11] + FORCE[12-1,11-1] - FORCE[12,11]; | 00041 |
| 41900 | END; % OF 12 LOOP   | 00041 |
| 42000 | IF STEADYSTATE AND 11 GTR YRSTOSTEADY                           | 00042 |
| 42100 | THEN BEGIN % FF   | 00042 |
| 42200 | TEMP := FORCE[31,11] - STEADYFORCE;                             | 00042 |
| 42300 | IF TEMP LSS 0   | 00042 |
| 42400 | THEN BEGIN % GG   | 00042 |
| 42500 | FORCE[0,11] := FORCE[0,11] - TEMP;                              | 00042 |
| 42600 | FORCE[31,11] := STEADYFORCE;                                    | 00042 |
| 42700 | END; % GO   | 00042 |
| 42800 | IF TEMP GTR 0   | 00042 |
| 42900 | THEN BEGIN % HH   | 00042 |
| 43000 | IF 13:=FORCE[0,11] - TEMP GEQ 0                                 | 00043 |
| 43100 | THEN BEGIN % II   | 00043 |
| 43200 | FORCE[31,11] := STEADYFORCE;                                    | 00043 |
| 43300 | FORCE[0,11] := FORCE[0,11] - TEMP;                              | 00043 |
| 43400 | END % II  | 00043 |
| 43500 | ELSE BEGIN % JJ   | 00043 |
| 43600 | FORCE[31,11] := FORCE[31,11] - FORCE[0,11];                     | 00043 |
| 43700 | FORCE[0,11] := 0;   | 00043 |
| 43800 | END; % JJ   | 00043 |
| 43900 | END; % HH   | 00043 |
| 44000 | END; % FF   | 00044 |
| 44100 | IF 11 NEQ YRSTOAGE AND CHORATES                                 | 00044 |
| 44200 | THEN BEGIN  | 00044 |
| 44300 | CHGCHK:   | 00044 |
| 44400 | WRITE(OUTPUT,<48"0C00", "DO YOU WISH TO INPUT NEW RETENTION ",  | 00044 |
| 44500 | "RATES FOR SIM YR ", 12, 48"0D25", "ENTER YES OR NO",           | 00044 |
| 44600 | 48"3C0013">, 11+1);   | 00044 |
| 44700 | READ(INPUT, <A3>, REPLY[0]);                                    | 00044 |
| 44800 | IF REPLY[0] EQL "END" THEN GO FINISHED;                         | 00044 |
| 44900 | IF REPLY[0] NEQ "YES" AND REPLY[0] NEQ "NO"                     | 00044 |
| 45000 | THEN GO TO CHGCHK;  | 00045 |
| 45100 | IF REPLY[0] EQL "YES"   | 00045 |
| 45200 | THEN BEGIN  | 00045 |
| 45300 | FOR 15:=0 STEP 1 UNTIL 28 DO RETRATES[15] := 0;                 | 00045 |
| 45400 | WRITE(OUTPUT, <48"0C00", "ENTER 29 RETENTION RATES, ",          | 00045 |
| 45500 | "ASTERISK WILL TERMINATE INPUT.", 48"0D25",                     | 00045 |
| 45600 | "ENTER WITH DECIMAL POINT. ",                                   | 00045 |
| 45700 | "EXAMPLE: .123, 1.0, .456",                                     | 00045 |
| 45800 | "7, .994", 48"3C0013">);  | 00045 |
| 45900 | READ(INPUT, /, FOR 15:=0 STEP 1 UNTIL 28 DO RETRATES[15]);      | 00045 |
| 46000 | WRITE(OUTPUT, <48"0C00", X4, "YRS", X17,                        | 00046 |
| 46100 | "RETENTION RATES FOR SIM YR ", 12,                              | 00046 |
| 46200 | 48"0D25", X3, "1-10", X2, 10(F5.3, X1),                         | 00046 |
| 46300 | 48"0D25", X2, "11-20", X2, 10(F5.3, X1),                        | 00046 |
| 46400 | 48"0D25", X2, "21-29", X2, 9(F5.3, X1), 48"11">,                | 00046 |
| 46500 | 11+1, FOR 15:=0 STEP 1 UNTIL 28 DO RETRATES[15]);               | 00046 |
| 46600 | NEXTPAGE4:  | 00046 |
| 46700 | WRITE(OUTPUT, <"ENTER OK WHEN READY TO CONTINUE",               | 00046 |
| 46800 | 48"3C0013">);   | 00046 |
| 46900 | READ(INPUT, <A2>, REPLY[0]);                                    | 00046 |
| 47000 | IF REPLY[0] NEQ "OK"  | 00047 |
| 47100 | THEN GO TO NEXTPAGE4;   | 00047 |
| 47200 | END;  | 00047 |
| 47300 | END;  | 00047 |
| 47400 | END; % DD   | 00047 |
| 47500 | GO WINDUP;  | 00047 |
| 47600 |   | 00047 |
| 47700 | STEADYPROC:   | 00047 |

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|-------|--|-------|
| 47800 | FOR I3:=1 STEP 1 UNTIL 30 DO   | 00047 |
| 47900 | FORCE[0,I3] := 0;  | 00047 |
| 48000 | TEMP := (STEADYFORCE - FORCE[31,0]) / YRSTOSTEADY;                       | 00048 |
| 48100 | IF TEMP LSS 0  | 00048 |
| 48200 | THEN TEMP := 0;  | 00048 |
| 48300 |  | 00048 |
| 48400 | NOTYET;  | 00048 |
| 48500 | FOR I3:=1 STEP 1 UNTIL YRSTOSTEADY DO                                    | 00048 |
| 48600 | FORCE[0,I3] := FORCE[0,I3] + TEMP;                                       | 00048 |
| 48700 | FOR I3:=1 STEP 1 UNTIL YRSTOSTEADY DO                                    | 00048 |
| 48800 | BEGIN % KK   | 00048 |
| 48900 | FOR I4:=1 STEP 1 UNTIL 29 DO   | 00049 |
| 49000 | BEGIN % LL   | 00049 |
| 49100 | FORCE[I4,I3] := FORCE[I4-1,I3-1] * RETRATES[I4-1];                       | 00049 |
| 49200 | FORCE[31,I3] := FORCE[31,I3] + FORCE[I4,I3];                             | 00049 |
| 49300 | END; % LL  | 00049 |
| 49400 | FORCE[31,I3] := FORCE[31,I3] + FORCE[0,I3];                              | 00049 |
| 49500 | END; % KK  | 00049 |
| 49600 | IF FORCE[31,YRSTOSTEADY] GEQ STEADYFORCE                                 | 00049 |
| 49700 | THEN I1 := 99  | 00049 |
| 49800 | ELSE BEGIN % KK1   | 00049 |
| 49900 | I1:=0;   | 00049 |
| 50000 | TEMP := (STEADYFORCE - FORCE[31,YRSTOSTEADY]) / YRSTOSTEADY;             | 00050 |
| 50100 | IF TEMP LSS 1 THEN TEMP := 1;  | 00050 |
| 50200 | END; % KK1   | 00050 |
| 50300 | FOR I3:=1 STEP 1 UNTIL YRSTOSTEADY DO                                    | 00050 |
| 50400 | FOR I4:=1 STEP 1 UNTIL 31 DO   | 00050 |
| 50500 | FORCE[I4,I3] := 0;   | 00050 |
| 50600 | IF I1 EOL 99   | 00050 |
| 50700 | THEN BEGIN % MM  | 00050 |
| 50800 | FOR I3:=YRSTOSTEADY + 1 STEP 1 UNTIL YRSTOAGE DO                         | 00050 |
| 50900 | FORCE[0,I3] := 999999;   | 00050 |
| 51000 | GO TO RENTRY;  | 00051 |
| 51100 | END; % MM  | 00051 |
| 51200 | GO NOTYET;   | 00051 |
| 51300 |  | 00051 |
| 51400 | WINDUP;  | 00051 |
| 51500 | WRITE(OUTPUT,<48"0C00",X19,A12,X5,12," YEAR FORCE STRUCTURE",48"11">);   | 00051 |
| 51600 | REPTNAME(OJ,YRSTOAGEF1);   | 00051 |
| 51700 | WRITE(OUTPUT(SPACE 1),<X1,"YEAR",X25,"YEAR",48"11">);                    | 00051 |
| 51800 | WRITE(OUTPUT,<48"11",X1,"GROUP",X6,"1",5(X9,12)>,FOR I1:=2 STEP 1 UNTIL  | 00051 |
| 51900 | IF YRSTOAGE LEQ 5 THEN YRSTOAGE + 1 ELSE 6 DO I1);                       | 00051 |
| 52000 | WRITE(OUTPUT,<(X2,12),(X5,16),4"11">,FOR I1:=1 IF YRGPDISP LEQ 15 THEN   | 00052 |
| 52100 | YRGPDISP-1 ELSE 14 STEP -1 UNTIL 0 DO(I1+1,IF YRSTOAGE LEQ 5 THEN        | 00052 |
| 52200 | YRSTOAGE + 1 ELSE 6,FOR I2:=0 STEP 1 UNTIL IF YRSTOAGE LEQ 5 THEN        | 00052 |
| 52300 | YRSTOAGE ELSE 5 DO FORCE[I1,I2]);  | 00052 |
| 52400 | WRITE(OUTPUT,<48"11",X1,"LOSS",X4,16,5(X5,16)>,FOR I2:=0 STEP 1 UNTIL IF | 00052 |
| 52500 | YRSTOAGE + 1 LEQ 6 THEN YRSTOAGE ELSE 5 DO FORCE[30,I2]);                | 00052 |
| 52600 | WRITE(OUTPUT,<48"11",X1,"STRN",X4,16,5(X5,16)>,FOR I2:=0 STEP 1 UNTIL IF | 00052 |
| 52700 | YRSTOAGE + 1 LEQ 6 THEN YRSTOAGE ELSE 5 DO FORCE[31,I2]);                | 00052 |
| 52800 | IF YRGPDISP LEQ 15 AND YRSTOAGE LEQ 5                                    | 00052 |
| 52900 | THEN GO TO FINISHED;   | 00052 |
| 53000 | IF YRGPDISP GTR 15   | 00053 |
| 53100 | THEN BEGIN % NN  | 00053 |
| 53200 | NEXTPAGEO;   | 00053 |
| 53300 | WRITE(OUTPUT,<"ENTER OK FOR NEXT PAGE OF REPORT",48"3C0013">);           | 00053 |
| 53400 | READ(INPUT,<A2>,REPLY(OJ);   | 00053 |
| 53500 | IF REPLY(OJ) NEQ "OK"  | 00053 |
| 53600 | THEN GO TO NEXTPAGEO;  | 00053 |
| 53700 | WRITE(OUTPUT,<48"0C00",X19,A12,X5,12," YEAR FORCE STRUCTURE",48"11">);   | 00053 |

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| 53800 | REPTNAME(01,YRSTOAGE+1);   | 000538 |
| 53900 | WRITE(OUTPUT,SPACE 11,<X1,"YEAR",X25,"YEAR",48"11">);                    | 000539 |
| 54000 | WRITE(OUTPUT,<48"11",X1,"GROUP",X6,"1",5(X9,12)>,FOR 11:=2 STEP 1 UNTIL  | 000540 |
| 54100 | IF YRSTOAGE LEQ 5 THEN YRSTOAGE + 1 ELSE 6 DO 11);                       | 000541 |
| 54200 | WRITE(OUTPUT,<(X2,12,*(X5,16),48"11">,FOR 11:=IF YRGPSDISP LEQ 30 THEN   | 000542 |
| 54300 | YRGPSDISP-1 ELSE 29 STEP -1 UNTIL 15 DO(11+1,IF YRSTOAGE LEQ 5 THEN      | 000543 |
| 54400 | YRSTOAGE + 1 ELSE 6, FOR 12:=0 STEP 1 UNTIL IF YRSTOAGE LEQ 5 THEN       | 000544 |
| 54500 | YRSTOAGE ELSE 5 DO FORCE(11,12));  | 000545 |
| 54600 | WRITE(OUTPUT,<48"11",X1,"LOSS",X4,16,5(X5,16)>,FOR 12:=0 STEP 1 UNTIL IF | 000546 |
| 54700 | YRSTOAGE + 1 LEQ 6 THEN YRSTOAGE ELSE 5 DO FORCE(30,12));                | 000547 |
| 54800 | WRITE(OUTPUT,<48"11",X1,"STRN",X4,16,5(X5,16)>,FOR 12:=0 STEP 1 UNTIL IF | 000548 |
| 54900 | YRSTOAGE + 1 LEQ 6 THEN YRSTOAGE ELSE 5 DO FORCE(31,12));                | 000549 |
| 55000 | END; % NN  | 000550 |
| 55100 | IF YRSTOAGE LEQ 5  | 000551 |
| 55200 | THEN GO TO FINISHED;   | 000552 |
| 55300 |  | 000553 |
| 55400 | NEXTPAGE1:   | 000554 |
| 55500 | WRITE(OUTPUT,<"ENTER OK FOR NEXT PAGE OF REPORT",48"3C0013">);           | 000555 |
| 55600 | READ(INPUT,<A2>,REPLY(01);   | 000556 |
| 55700 | IF REPLY(01) NEQ "OK"  | 000557 |
| 55800 | THEN GO TO NEXTPAGE1;  | 000558 |
| 55900 | IF YRSTOAGE GEQ 12   | 000559 |
| 56000 | THEN GO TO BIOPICTURE;   | 000560 |
| 56100 | WRITE(OUTPUT,<48"0C00",X19,A12,X5,12," YEAR FORCE STRUCTURE",48"11">,    | 000561 |
| 56200 | REPTNAME(01,YRSTOAGE+1);   | 000562 |
| 56300 | WRITE(OUTPUT,SPACE 11,<X1,"YEAR",X25,"YEAR",48"11">);                    | 000563 |
| 56400 | WRITE(OUTPUT,<48"11",X1,"GROUP",X6,"7",5(X9,12)>,FOR 11:=8 STEP 1 UNTIL  | 000564 |
| 56500 | IF YRSTOAGE LEQ 11 THEN YRSTOAGE + 1 ELSE 12 DO 11);                     | 000565 |
| 56600 | WRITE(OUTPUT,<(X2,12,*(X5,16),48"11">,FOR 11:=IF YRGPSDISP LEQ 15 THEN   | 000566 |
| 56700 | YRGPSDISP-1 ELSE 14 STEP -1 UNTIL 0 DO(11+1,IF YRSTOAGE LEQ 11 THEN      | 000567 |
| 56800 | YRSTOAGE-5 ELSE 6, FOR 12:=6 STEP 1 UNTIL IF YRSTOAGE LEQ 11 THEN        | 000568 |
| 56900 | YRSTOAGE ELSE 11 DO FORCE(11,12));                                       | 000569 |
| 57000 | WRITE(OUTPUT,<48"11",X1,"LOSS",X4,16,5(X5,16)>,FOR 12:=6 STEP 1 UNTIL    | 000570 |
| 57100 | IF YRSTOAGE LEQ 11 THEN YRSTOAGE ELSE 11 DO FORCE(30,12));               | 000571 |
| 57200 | WRITE(OUTPUT,<48"11",X1,"STRN",X4,16,5(X5,16)>,FOR 12:=6 STEP 1 UNTIL    | 000572 |
| 57300 | IF YRSTOAGE LEQ 11 THEN YRSTOAGE ELSE 11 DO FORCE(31,12));               | 000573 |
| 57400 | IF YRGPSDISP LEQ 15  | 000574 |
| 57500 | THEN GO TO FINISHED;   | 000575 |
| 57600 |  | 000576 |
| 57700 | NEXTPAGE3:   | 000577 |
| 57800 | WRITE(OUTPUT,<"ENTER OK FOR NEXT PAGE OF REPORT",48"3C0013">);           | 000578 |
| 57900 | READ(INPUT,<A2>,REPLY(01);   | 000579 |
| 58000 | IF REPLY(01) NEQ "OK"  | 000580 |
| 58100 | THEN GO TO NEXTPAGE3;  | 000581 |
| 58200 | WRITE(OUTPUT,<48"0C00",X19,A12,X5,12," YEAR FORCE STRUCTURE",48"11">,    | 000582 |
| 58300 | REPTNAME(01,YRSTOAGE+1);   | 000583 |
| 58400 | WRITE(OUTPUT,SPACE 11,<X1,"YEAR",X25,"YEAR",48"11">);                    | 000584 |
| 58500 | WRITE(OUTPUT,<48"11",X1,"GROUP",X6,"7",5(X9,12)>,FOR 11:=8 STEP 1 UNTIL  | 000585 |
| 58600 | IF YRSTOAGE LEQ 11 THEN YRSTOAGE + 1 ELSE 12 DO 11);                     | 000586 |
| 58700 | WRITE(OUTPUT,<(X2,12,*(X5,16),48"11">,FOR 11:=IF YRGPSDISP LEQ 30 THEN   | 000587 |
| 58800 | YRGPSDISP-1 ELSE 29 STEP -1 UNTIL 15 DO(11+1,IF YRSTOAGE LEQ 11 THEN     | 000588 |
| 58900 | YRSTOAGE-5 ELSE 6, FOR 12:=6 STEP 1 UNTIL IF YRSTOAGE LEQ 11 THEN        | 000589 |
| 59000 | YRSTOAGE ELSE 11 DO FORCE(11,12));                                       | 000590 |
| 59100 | WRITE(OUTPUT,<48"11",X1,"LOSS",X4,16,5(X5,16)>,FOR 12:=6 STEP 1 UNTIL    | 000591 |
| 59200 | IF YRSTOAGE LEQ 11 THEN YRSTOAGE ELSE 11 DO FORCE(30,12));               | 000592 |
| 59300 | WRITE(OUTPUT,<48"11",X1,"STRN",X4,16,5(X5,16)>,FOR 12:=6 STEP 1 UNTIL    | 000593 |
| 59400 | IF YRSTOAGE LEQ 11 THEN YRSTOAGE ELSE 11 DO FORCE(31,12));               | 000594 |
| 59500 | GO TO FINISHED;  | 000595 |
| 59600 |  | 000596 |
| 59700 | BIOPICTURE:  | 000597 |

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| 59800 | WRITE(OUTPUT, <48"0C00", X19, A12, X5, 12, " YEAR FORCE STRUCTURE", 48"11">,    | 00059 |
| 59900 | REPTNAME[0], YRSTOAGE+1);   | 00059 |
| 60000 | WRITE(OUTPUT[SPACE 11, <X1, "YEAR", X25, "YEAR", 48"11">);                      | 00060 |
| 60100 | WRITE(OUTPUT, <48"11", X1, "GROUP", X4, "10", 4(X9, 12)>, FOR 11:=15 STEP 5     | 00060 |
| 60200 | UNTIL YRSTOAGE + 1 DO 11, IF YRSTOAGE+1 NEQ 11-5 THEN                           | 00060 |
| 60300 | YRSTOAGE+1);  | 00060 |
| 60400 | FOR 11:=1 IF YRGPSDISP LEQ 15 THEN YRGPSDISP-1 ELSE 14 STEP -1 UNTIL 0 DO       | 00060 |
| 60500 | WRITE(OUTPUT, <48"11", X2, 12, X4, 16, 5(X5, 16)>, 11+1, FOR 12:=9 STEP 5 UNTIL | 00060 |
| 60600 | YRSTOAGE DO FORCE[11, 12], IF YRSTOAGE NEQ 12-5 THEN                            | 00060 |
| 60700 | FORCE[11, YRSTOAGE];  | 00060 |
| 60800 | WRITE(OUTPUT, <48"11", X1, "LOSS", X3, 16, 5(X5, 16)>, FOR 12:=9 STEP 5 UNTIL   | 00060 |
| 60900 | YRSTOAGE DO FORCE[30, 12], IF YRSTOAGE NEQ 12-5 THEN                            | 00060 |
| 61000 | FORCE[30, YRSTOAGE];  | 00061 |
| 61100 | WRITE(OUTPUT, <48"11", X1, "STRN", X3, 16, 5(X5, 16)>, FOR 12:=9 STEP 5 UNTIL   | 00061 |
| 61200 | YRSTOAGE DO FORCE[31, 12], IF YRSTOAGE NEQ 12-5 THEN                            | 00061 |
| 61300 | FORCE[31, YRSTOAGE];  | 00061 |
| 61400 | IF YRGPSDISP LEQ 15   | 00061 |
| 61500 | THEN GO TO FINISHED;  | 00061 |
| 61600 |   | 00061 |
| 61700 | NEXTPAGE2:  | 00061 |
| 61800 | WRITE(OUTPUT, <"ENTER OK FOR NEXT PAGE OF REPORT", 48"3C0013">);                | 00061 |
| 61900 | READ(INPUT, <A2>, REPLY[0]);  | 00061 |
| 62000 | IF REPLY[0] NEQ "OK"  | 00062 |
| 62100 | THEN GO TO NEXTPAGE2;   | 00062 |
| 62200 | WRITE(OUTPUT, <48"0C00", X19, A12, X5, 12, " YEAR FORCE STRUCTURE", 48"11">,    | 00062 |
| 62300 | REPTNAME[0], YRSTOAGE+1);   | 00062 |
| 62400 | WRITE(OUTPUT[SPACE 11, <X1, "YEAR", X25, "YEAR", 48"11">);                      | 00062 |
| 62500 | WRITE(OUTPUT, <48"11", X1, "GROUP", X4, "10", 4(X9, 12)>, FOR 11:=15 STEP 5     | 00062 |
| 62600 | UNTIL YRSTOAGE + 1 DO 11, IF YRSTOAGE + 1 NEQ 11-5 THEN                         | 00062 |
| 62700 | YRSTOAGE+1);  | 00062 |
| 62800 | FOR 11:=1 IF YRGPSDISP LEQ 30 THEN YRGPSDISP-1 ELSE 29 STEP -1 UNTIL 15 DO      | 00062 |
| 62900 | WRITE(OUTPUT, <48"11", X2, 12, X4, 16, 5(X5, 16)>, 11+1, FOR 12:=9 STEP 5 UNTIL | 00062 |
| 63000 | YRSTOAGE DO FORCE[11, 12], IF YRSTOAGE NEQ 12-5 THEN                            | 00063 |
| 63100 | FORCE[11, YRSTOAGE];  | 00063 |
| 63200 | WRITE(OUTPUT, <48"11", X1, "LOSS", X3, 16, 5(X5, 16)>, FOR 12:=9 STEP 5 UNTIL   | 00063 |
| 63300 | YRSTOAGE DO FORCE[30, 12], IF YRSTOAGE NEQ 12-5 THEN                            | 00063 |
| 63400 | FORCE[30, YRSTOAGE];  | 00063 |
| 63500 | WRITE(OUTPUT, <48"11", X1, "STRN", X3, 16, 5(X5, 16)>, FOR 12:=9 STEP 5 UNTIL   | 00063 |
| 63600 | YRSTOAGE DO FORCE[31, 12], IF YRSTOAGE NEQ 12-5 THEN                            | 00063 |
| 63700 | FORCE[31, YRSTOAGE];  | 00063 |
| 63800 |   | 00063 |
| 63900 | FINISHED:   | 00063 |
| 64000 | WRITE(OUTPUT, <"IF YOU WISH TO RUN AGAIN ENTER YES ELSE NO",                    | 00064 |
| 64100 | 48"3C0013">);   | 00064 |
| 64200 | READ(INPUT, <A3>, REPLY[0]);  | 00064 |
| 64300 | IF REPLY[0] EQL "END" THEN GO FINISHED;   | 00064 |
| 64400 | IF REPLY[0] EQL "YES"   | 00064 |
| 64500 | THEN BEGIN  | 00064 |
| 64600 | IF DIDRUN   | 00064 |
| 64700 | THEN BEGIN  | 00064 |
| 64800 | TIM:=TIME(2)-TIM;   | 00064 |
| 64900 | TAT:=TAT+1;   | 00064 |
| 65000 | TAT:=TAT+TIM;   | 00065 |
| 65100 | REPLACE URAY[7] BY TAT FOR 10 DIGITS;   | 00065 |
| 65200 | REPLACE URAY[17] BY TAT FOR 7 DIGITS;   | 00065 |
| 65300 | WRITE(UTIL[REC], 4, URAY[0]);   | 00065 |
| 65400 | LOCK(UTIL);   | 00065 |
| 65500 | LOCK(FORCEGROUPS);  | 00065 |
| 65600 | END;  | 00065 |
| 65700 | GO TO INPUTDATA;  | 00065 |

|       |   |        |
|-------|---|--------|
| 65800 | END;  | 000653 |
| 65900 | IF REPLY(0) NEQ "NO"  | 000654 |
| 66000 | THEN BEGIN  | 000655 |
| 66100 | WRITE(OUTPUT,<48"0C0011">);   | 000661 |
| 66200 | GO TO FINISHED;   | 000662 |
| 66300 | END;  | 000663 |
| 66400 |   | 000664 |
| 66500 | THEEND:   | 000665 |
| 66600 | IF DIDRUN   | 000666 |
| 66700 | THEN BEGIN  | 000667 |
| 66800 | TIM:=TIME(2)-TIM;   | 000668 |
| 66900 | TAT1:=TAT+TIM;  | 000669 |
| 67000 | TAT1:=TAT+1;  | 000670 |
| 67100 | REPLACE URAY(7) BY TAT1 FOR 10 DIGITS;                                | 000671 |
| 67200 | REPLACE URAY(17) BY TAT FOR 7 DIGITS;                                 | 000672 |
| 67300 | WRITE(UTIL[REC],4,URAY(0));   | 000673 |
| 67400 | LOCK(UTIL);   | 000674 |
| 67500 | END;  | 000675 |
| 67600 | WRITE(OUTPUT,<48"0C00",X10,"***** END OF PROGRAM *****",48"3C0013">); | 000676 |
| 67700 | END. % AA   | 000677 |